1. (Previously Amended) A cardioplegia catheter for inducing cardioplegic arrest comprising:

a shaft with a distal end, a proximal end, an opening near the distal end, a port at the proximal end, and an inner lumen fluidly connecting the port and the opening, a distal portion of the shaft being configured to extend into the ascending aorta when a proximal portion of the shaft extends into a left chamber of the heart through the aortic valve and out of the heart through a penetration in a wall thereof;

an occlusion member mounted to the shaft distally of the opening and configured to occlude the ascending aorta between the brachiocephalic artery and the coronary ostia; and

a sealing device for sealing the penetration in the wall of the heart around the shaft to inhibit blood flow therethrough.

2. (Cancelled)

3. (Previously Amended) The cardioplegia catheter of claim 1 wherein the sealing device comprises a purse string suture applicable to the wall of the heart around the penetration.

4. (Previously Amended) The cardioplegia catheter of claim 1 wherein the shaft is between about 25 cm and 75 cm in length.

5. (Cancelled)

6. (Previously Amended) A cardioplegia catheter, comprising:

a shaft with a distal end, a proximal end, an opening near the distal end, a port at the proximal end, and an inner lumen fluidly connecting the port and the opening, a distal portion of the shaft being configured to extend into the ascending aorta when a proximal portion of the shaft extends into a left chamber of the heart through the aortic valve and out of the heart through a penetration in a wall thereof;

an occlusion member mounted to the shaft distally of the opening and configured to occlude the ascending aorta between the brachiocephalic artery and the coronary ostia; and

a guiding device for guiding the distal end of the shaft into the ascending aorta with the proximal end extending through a left ventricle, a mitral valve and a left atrium of the heart.

7. (Original) The cardioplegia catheter of claim 6 wherein the guiding device comprises a guidewire positionable in the ascending aorta from the left chamber of the heart.

8-9. (Cancelled)

10. (Original) The cardioplegia catheter of claim 6 wherein the guiding device comprises a flow directed catheter positionable through a lumen in the shaft and having an expandable member at a distal end thereof for being carried by blood flow into the ascending aorta.

11. (Original) The cardioplegia catheter of claim 1 further comprising a source of cardioplegic fluid in communication with the port at the proximal end of the shaft.

12. (Original) The cardioplegia catheter of claim 1 wherein the inner lumen is configured to deliver cardioplegic fluid at a rate of at least about 150 ml/min and a pressure less than about 350 mmHg.

13. (Original) The cardioplegia catheter of claim 1 wherein the inner lumen has a cross-sectional area of at least about 2.2 mm^2 between the port and the opening.

14. (Original) The cardioplegia catheter of claim 1 further comprising a delivery opening distal to the occlusion member, a delivery port at the proximal end of the shaft, and a delivery lumen extending between the delivery port and the delivery opening.

15. (Original) The cardioplegia catheter of claim 14 wherein the delivery lumen is configured to deliver blood at sufficient rates to maintain the patient under full cardiopulmonary bypass with cardioplegic arrest.

16. (Original) The cardioplegia catheter of claim 15 wherein the delivery lumen is configured to deliver blood at a rate of at least about 4 liters/min at a pressure no more than about 350 mmHg.

17. (Previously Amended) A cardioplegia catheter, comprising:

a shaft with a distal end, a proximal end, an opening near the distal end, a port at the proximal end, and an inner lumen fluidly connecting the port and the opening, a distal portion of the shaft being configured to extend into the ascending aorta when a proximal portion of the shaft extends into a left chamber of the heart through the aortic valve and out of the heart through a penetration in a wall thereof;

an occlusion member mounted to the shaft distally of the opening and configured to occlude the ascending aorta between the brachiocephalic artery and the coronary ostia; and

a pressure monitoring device coupled to the shaft for monitoring pressure in the ascending aorta proximal to the occlusion member.

18. (Original) The cardioplegia catheter of claim 17 further comprising a pressure opening in the shaft proximal to the occlusion member, a pressure port at the proximal end of the shaft, and a pressure lumen extending between the pressure port and the pressure opening, the pressure monitoring device being in communication with the pressure port at the proximal end of the shaft.

19. (Previously Amended) A catheter system for inducing cardioplegic arrest comprising:

a cardioplegia catheter including:

a shaft with a distal end, a proximal end, an opening near the distal end, a port at the proximal end, and an inner lumen fluidly connecting the port and the opening, a distal portion of the shaft being configured to extend into the ascending aorta when a proximal portion of the shaft extends into a left chamber of the heart through the aortic valve and out of the heart through a penetration in a wall thereof; and

a guiding device for guiding the distal portion of the shaft into the ascending aorta from the left chamber of the heart.

20. (Previously Amended) A catheter system for inducing cardioplegic arrest comprising:

a cardioplegia catheter including:

a shaft with a distal end, a proximal end, an opening at the distal end, a port at the proximal end, and an inner lumen fluidly connecting the port and the opening, a distal portion of the shaft being configured to extend into the ascending aorta when a proximal portion of the shaft extends into a left chamber of the heart through the aortic valve and out of the heart through a penetration in a wall thereof; and

an occlusion member mounted near the distal end of the shaft and configured to occlude the ascending aorta between the brachiocephalic artery and the coronary ostia;

a source of cardioplegic fluid in communication with the port at the proximal end of the shaft;

an arterial return cannula positionable in an artery downstream of the occlusion member for maintaining circulation of oxygenated blood in the patient's arterial system; and

a sealing device for sealing the penetration in the wall of the heart around the shaft to inhibit blood flow therethrough.